InMed Pharmaceuticals Inc.'s INM-901 Demonstrates Unique Pharmacological Effects in Alzheimer's Disease in Preclinical Proof-of-Concept Studies

- ***In vitro* Alzheimer's disease studies show that INM-901 treated groups display neuroprotection and extended neurite length, a potential marker for improved neuronal function**
- **INM-901 treated groups in an *in vivo* Alzheimer's disease model demonstrate improved behavioral, cognitive and memory outcomes in several Alzheimer's proof-of-concept studies**

Vancouver, British Columbia--(Newsfile Corp. - October 24, 2023) - InMed Pharmaceuticals Inc. **(NASDAQ: INM)** ("**InMed**" or the "**Company**"), a leader in the pharmaceutical research, development, manufacturing and commercialization of rare cannabinoids and cannabinoid analogs, today announced it has selected a lead Alzheimer's disease drug candidate, named INM-901, following positive results from several proof-of-concept studies in a validated Alzheimer's disease treatment model. InMed will be advancing INM-901, a cannabinoid analog, in its pharmaceutical drug development program.

Based on early *in vitro* research, INM-901 showed potential to target several biological pathways associated with Alzheimer's, including neuroprotection to the brain neurons from beta-amyloid peptide-induced toxicity and improving neuronal function via extension of neurite length. In addition to these encouraging *in vitro* testing outcomes, INM-901 demonstrated favorable results in an *in vivo* preclinical Alzheimer's proof-of-concept model. When compared to the placebo treated Alzheimer's disease group in these preclinical studies, INM-901 treatment groups demonstrated a trend towards improvement in:

- cognitive function and memory
- locomotor activity
- anxiety-based behavior
- sound awareness

Planning is underway for the next stage of advanced preclinical studies and will include drug metabolism and pharmacokinetics as well as initiation of pharmaceutical drug development activities such as manufacturing and formulation.

Dr. Eric Hsu, InMed's Senior Vice President of Preclinical Research and Development, stated, "The most recent studies of INM-901 demonstrate promising disease-modifying effects in an Alzheimer's disease treatment model. We are optimistic that the next stage of studies will continue to show how this cannabinoid analog can improve neuronal function, a potential breakthrough in Alzheimer's treatment." Dr. Hsu continued, "Alzheimer's disease patients have had limited treatment options until recently and while there have been advancements in understanding disease pathology, there are major limitations to current therapies. There remains a huge unmet medical need for this progressive disease that takes a major toll on patients and their families."

Candidate selection process
Early research into the neuroprotective effects seen in INM's ocular disease/glaucoma development program (INM-088) led to the screening of multiple cannabinoids against a panel of non-ocular neuron models, including brain neurons. One cannabinoid in particular emerged as a promising candidate for protection against neurodegenerative diseases of the brain. InMed's team developed several analogs of this cannabinoid in an attempt to augment the potential effects seen in these *in vitro* models. Further screening in several Alzheimer's disease assays identified two analogs that were advanced into *in vivo* preclinical testing involving a well-established Alzheimer's proof-of-concept model to measure drug impact on several disease characteristics. Based on the results from this battery of preclinical testing, a final candidate has been selected for continued pharmaceutical R&D and now carries the nomenclature INM-901.

Challenges with current treatments
Newly-approved Alzheimer's disease medications primarily address symptoms related to memory and cognitive function via the reduction of beta-amyloid plaques. Some may slow the rate of cognitive decline, but no treatment has shown to reverse its effects. These medications are aimed at removing amyloid plaque build-up between the neurons in the brain; however, they do not restore or rebuild deteriorating neurons and thus do not reverse Alzheimer's disease progression. In addition, these treatments are related to some significant side effects, including inflammation and bleeding in the brain, some requiring brain scans once or twice a year. Several large pharmaceutical companies such as Eli Lilly, Roche and Eisai/Biogen lead research and commercialization efforts in Alzheimer's disease drug development.

Potential advantages of INM-901 in treating neurological conditions
Several *in vitro* and *in vivo* studies published by third parties support InMed's finding of the effects of INM-901 in neuronal disorders:

- **Ability to cross the blood-brain barrier ("BBB"):** The blood-brain barrier is the specialized system of brain microvascular endothelial cells that serves to regulate several functions: to shield the brain from toxic substances (including viruses, bacteria and other foreign substances including many drugs); to supply brain tissues with nutrients; and, to filter harmful compounds from the brain back into the bloodstream. Due to its chemical structure, INM-901 is highly lipophilic (dissolves readily in fats, oils and lipids) and can easily cross the BBB, making it a promising drug candidate for pharmaceutical use in the treatment of neurodegenerative disease of the brain.
- **Targeting several receptor systems:** In addition to the endocannabinoid system, INM-901 is capable of targeting

multiple receptor systems which may be beneficial as a multi-pronged approach to treating complex diseases of the brain.

Neurodegenerative Disease Program Progress
InMed's latest Alzheimer's disease study outcomes follow several developments in the program:

- **International patent:** InMed has filed several patents, including an international application citing use of rare cannabinoids and analogs for the potential treatment of neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, Huntington's disease and others. One patent specifies such compounds that may inhibit or slow the progression of neurodegenerative diseases by providing neuroprotection in a population of affected neurons.
- **Presentation at Canadian Neuroscience Meeting:** An InMed sponsored scientific poster, entitled "**Cannabinoids modulate cytotoxicity and neuritogenesis in Amyloid-beta-treated neuronal cells,"** demonstrated the ability of a specific rare cannabinoid to reduce amyloid toxicity and tau protein expression while enhancing neuronal cell growth and neuritogenesis markers *in vitro*, all considered to be important targets in the potential treatment of neurodegenerative diseases such as Alzheimer's.

About InMed
InMed Pharmaceuticals is a global leader in the research, development, manufacturing and commercialization of rare cannabinoids, including clinical and preclinical programs targeting the treatment of diseases with high unmet medical needs. We also have significant know-how in developing proprietary manufacturing approaches to produce cannabinoids for various market sectors. For more information, visit www.inmedpharma.com.

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Cautionary Note Regarding Forward-Looking Information:

This news release contains "forward-looking information" and "forward-looking statements" (collectively, "forward-looking information") within the meaning of applicable securities laws. Forward-looking information is based on management's current expectations and beliefs and is subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Forward-looking information in this news release includes statements about: the next stages of advanced preclinical studies of INM-901, including drug metabolism and pharmacokinetics as well as the initiation of pharmaceutical drug development activities such as manufacturing and formulation; promising disease-modifying effects in an Alzheimer's disease treatment model; and the next stage of studies which may show how this cannabinoid analog can improve neuronal function.

Additionally, there are known and unknown risk factors which could cause InMed's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information contained herein. A complete discussion of the risks and uncertainties facing InMed's stand-alone business is disclosed in InMed's Annual Report on Form 10-K and other filings with the Securities and Exchange Commission on www.sec.gov.

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